

What is claimed is

1. A magnetic bearing control device for controlling a magnetic bearing for supporting a rotor in non-contact manner, and a motor for rotating said rotor and capable of generating an electric power with the rotation of said rotor, comprising:
  - 5 a magnetic bearing drive controller which drives and controls said magnetic bearing;
  - a motor drive circuit including an inverter for driving said motor, a regenerative circuit for supplying a regenerative electric power generated by said motor to said magnetic bearing drive controller, and a switch portion for selectively switching the connection of said inverter and said regenerative circuit to said motor;
  - 10 an inverter controller which controls said inverter; and
  - 15 an over-speed detection circuit for detecting a number of revolutions of said rotor and outputting an over-speed detection signal when the detected number of revolutions is greater than or equal to a preset number of revolutions; wherein said motor drive circuit performs a switching operation of the switch portion to separate the inverter from said motor, and connect the regenerative circuit to said motor, when the over-speed detection signal from said over-speed detection circuit is input.
  - 20
  - 25 2. The magnetic bearing control device according to claim

1, further comprising a power failure detection circuit for  
detecting a power failure, which is connected between said  
over-speed detection circuit and said motor drive circuit,  
wherein said power failure detection circuit outputs a switching  
5 signal of said switch portion to said motor drive circuit for  
separating said inverter from said motor, and connect said  
regenerative circuit to said motor, when the power failure is  
detected or an over-speed detection signal is input from said  
over-speed detection circuit.

10

102007060442600